

machine vision and colour

nature, art, and fashion

Elizabeth Skipp

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nature, art, and fashion

blacks



blues



cyans



greens



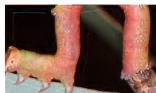
yellows



oranges



pinks



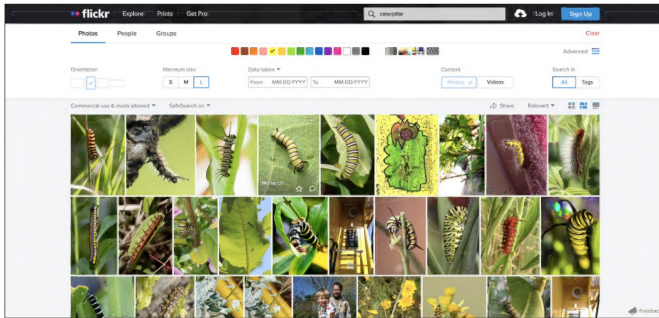
reds



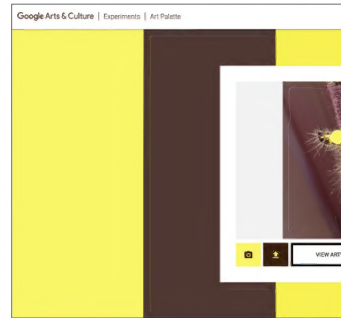
introduction

Machine vision is a term for the way computers now can ‘see’ an image, and recognise its properties, or objects within it.

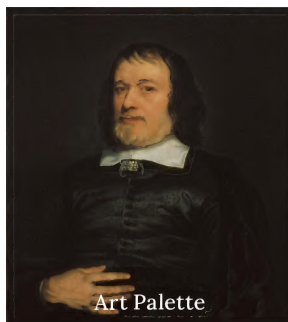
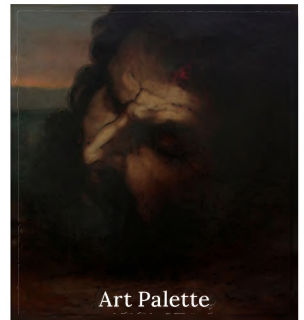
This eBook has been populated through the use of Flickr, and Google Experiments’ Art Palette and Runway Palette. The experiments use machine vision technology.



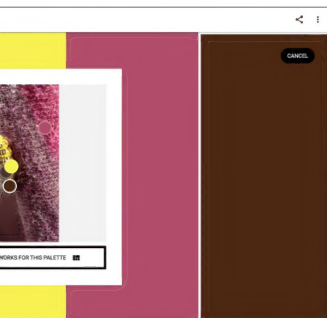
Flickr



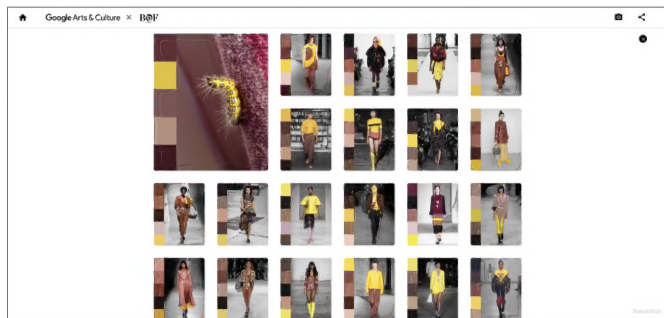
Art P



the process



palette



Runway Palette

Images from Flickr are taken into the two Google Experiments, and images are found using the machine's vision.

It's a simple exercise, and the difference in their detection of colour, and results, is interesting.

The Art Palette allows for a more direct selection of the subject's colour, and the Runway Palette takes the most common colours from the images, not allowing for alteration by the user.

The image results are then taken back into the other Google Experiment.

blacks

Black is the darkest color, the result of the absence or complete absorption of visible light. It is an achromatic color, a color without hue, like white and gray.

It is often used symbolically or figuratively to represent darkness.

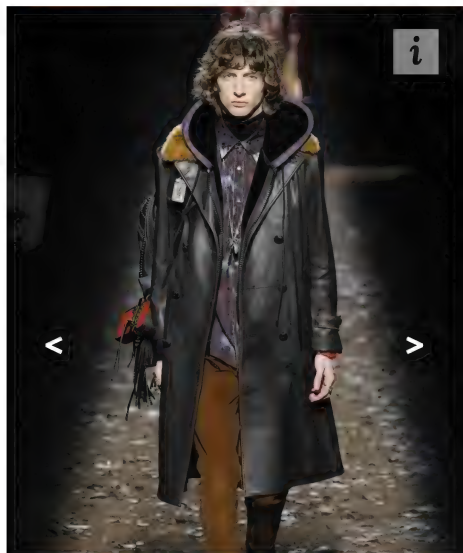
Black and white have often been used to describe opposites such as good and evil, the Dark Ages versus Age of Enlightenment, and night versus day.

Since the Middle Ages, black has been the symbolic color of solemnity and authority, and for this reason is still commonly worn by judges and magistrates.

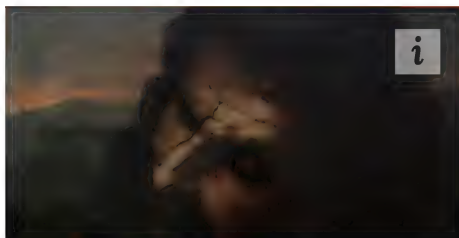
“Computer vision and machine learning have really started to take off, but for most people, the whole idea of what is a computer seeing when it’s looking at an image is relatively obscure.”

Mike Krieger

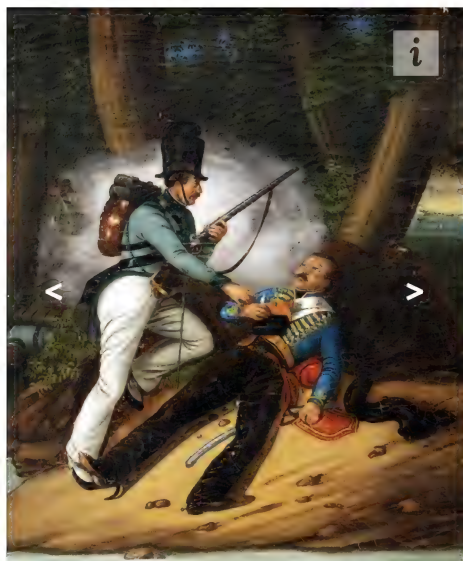




Coach
Fall/Winter 2018

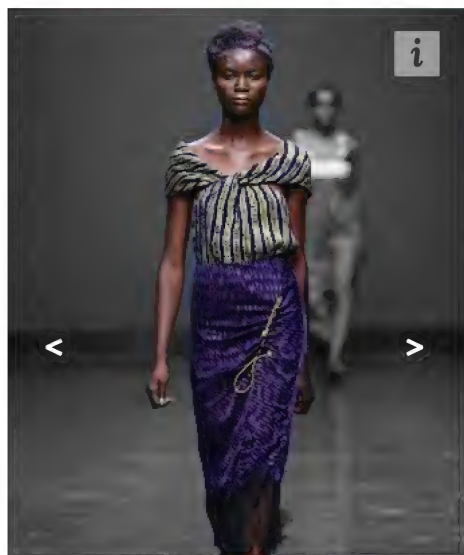


Head of Goliath
Vieira Portuense 18th Century

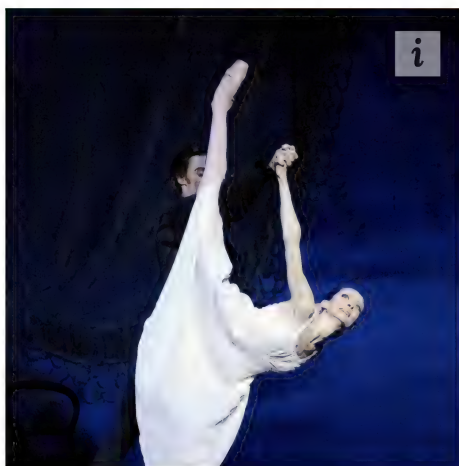


Vogue
Fall 2018

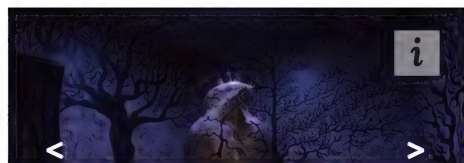




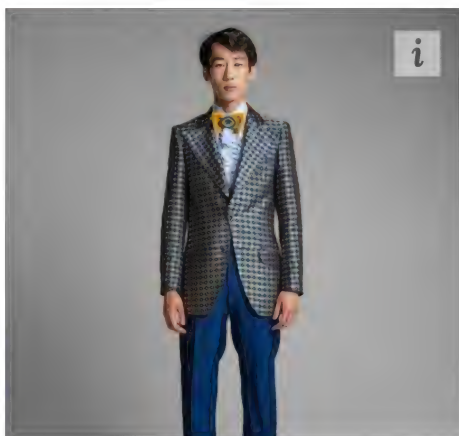
Maki Oh
Spring 2019



Isabelle Ciaravola
Michel Lidvac 2009



Life
Leyla Aliyeva 2014



David Hart
Spring 2019

blues

Blue is one of the three primary colours of pigments in painting and traditional colour theory, as well as in the RGB colour model.

It lies between violet and green on the spectrum of visible light. The eye perceives blue when observing light with a dominant wavelength between approximately 450 and 495 nanometres.

Most blues contain a slight mixture of other colours; azure contains some green, while ultramarine contains some violet.

The clear daytime sky and the deep sea appear blue because of an optical effect known as Rayleigh scattering.

“Machines of this character can
behave in a very complicated
manner when the number of
units is large.”

Alan Turing



Hairy caterpillar

Nikon D7000

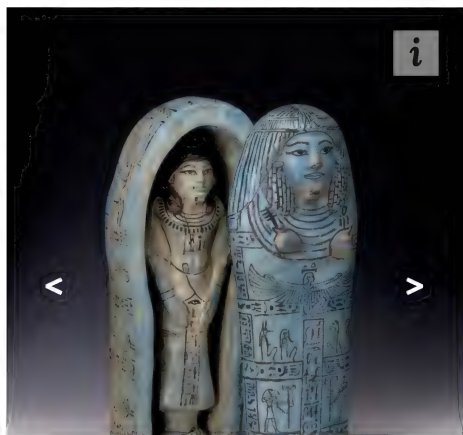
f/2.8, f/18.0 105.0 mm 1/200 ISO 160 Flash (on, fired)



Valentino
Cruise 2020



Pendant with Head of Demon
Unknown 350



Shabti coffin and lid of the
royal fanbearer Amenmose



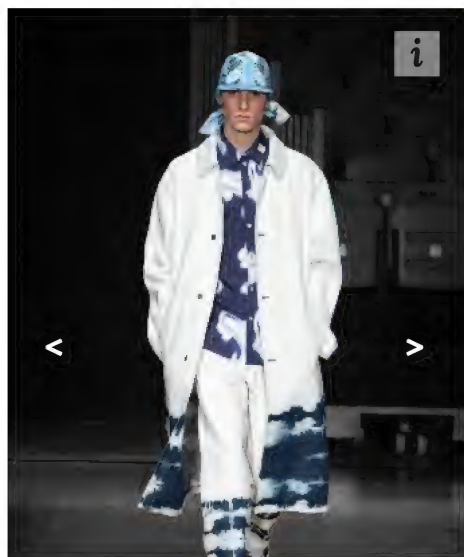
Missoni
Spring 2020



Arsenura caterpillar

Panasonic DMC-TZ80

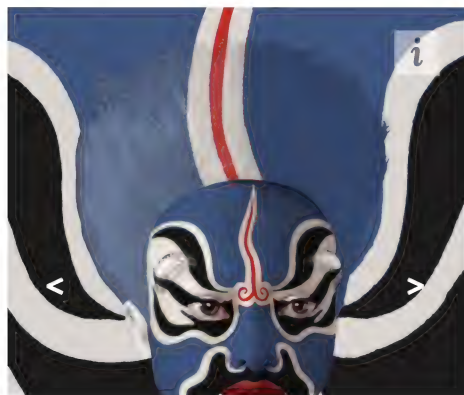
f/4.4 11.7 mm 1/30 ISO 1600 Flash (off, did not fire)



MSGM
Spring 2020



#43
Cy Thao 1993/2001



Beijing Opera Self
Hybridization n°6
Orlan 2014



MAN
Spring 2019

cyans

Cyan is a greenish-blue color. It is evoked by light with a predominant wavelength of between 490 and 520 nm, between the wavelengths of green and blue.

In the subtractive color system, or CMYK color model, which can be overlaid to produce all colors in paint and color printing, cyan is one of the primary colors, along with magenta, yellow, and black.

In the additive color system, or RGB color model, used to create all the colors on a computer or television display, cyan is made by mixing equal amounts of green and blue light.

Cyan is the complement of red; it can be made by the removal of red from white light. Mixing red light and cyan light at the right intensity will make white light.

“If we could build computers that could understand what’s in an image and could tell a blind person who otherwise couldn’t see that image, that would be pretty amazing as well.”

Mark Zuckerberg



Actias neidhoederii

Canon EOS 50D

f/11.0 65.0 mm 1/250 ISO 100 Flash (on, fired)



Swedish School of Textiles,
University of Borås
Spring 2017



Red Door
Spiros Papalucas 1923



"Solo Show of Fang Lijun"
Fang Lijun 2006





Promethia caterpillar

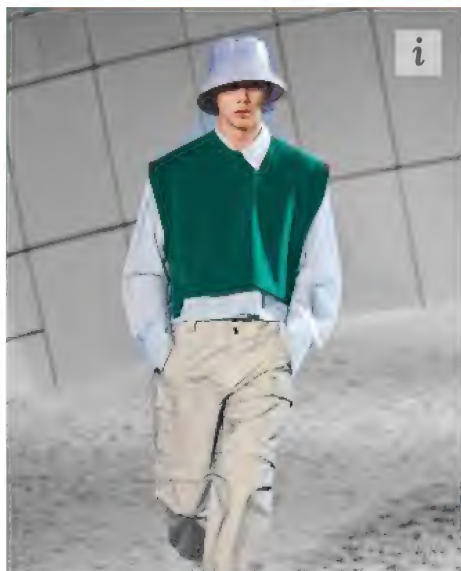
Panasonic DMC-FZ200
f/2.8 ISO 200 Flash (off, did not fire)



Richard Quinn
Autumn 2018



Wine Jar, Celadon
Long-quan Ware



Solid
Spring 2019

greens

Green is the color between blue and yellow on the visible spectrum. It is evoked by light which has a dominant wavelength of roughly 495–570 nm.

In subtractive color systems, used in painting and color printing, it is created by a combination of yellow and blue, or yellow and cyan; in the RGB color model, used on television and computer screens, it is one of the additive primary colors, along with red and blue, which are mixed in different combinations to create all other colors.

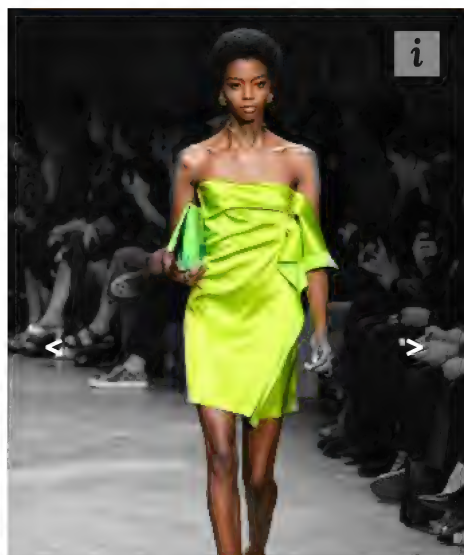
By far the largest contributor to green in nature is chlorophyll, the chemical by which plants photosynthesize and convert sunlight into chemical energy. Many creatures have adapted to their green environments by taking on a green hue themselves as camouflage.

Several minerals have a green color, including the emerald, which is colored green by its chromium content.

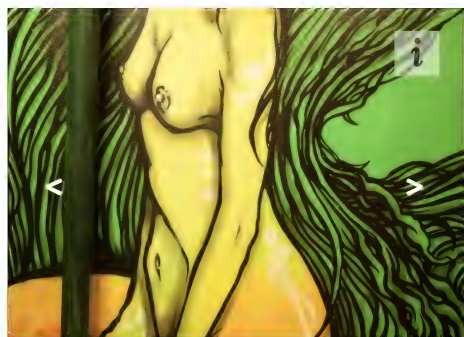
“There is no reason and no way
that a human mind can keep up
with an artificial intelligence
machine by 2035.”

Gray Scott

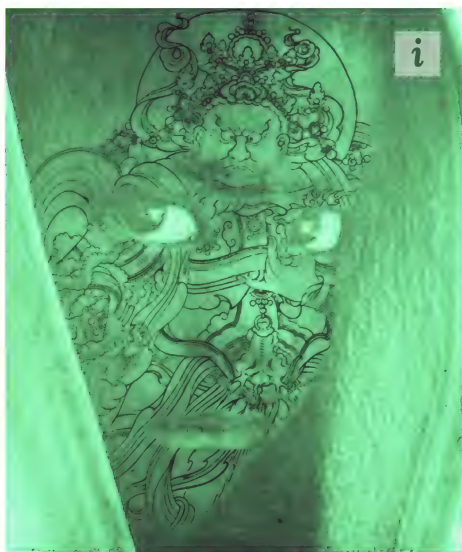
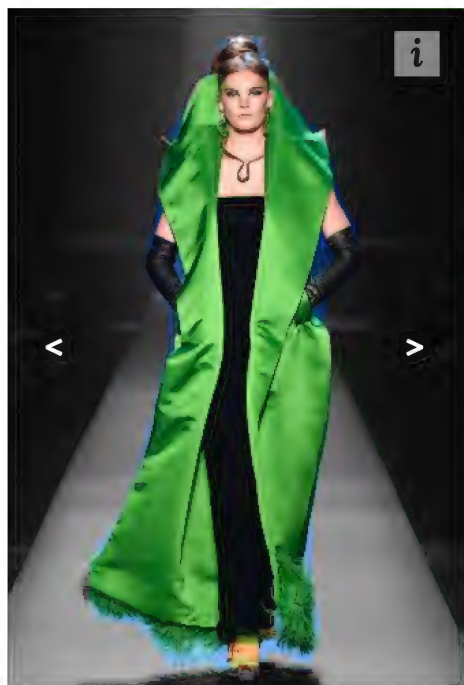




Versace
Spring 2020







Wind Wave
Ahn Byeongseok 1984



yellows

Yellow is the color between orange and green on the spectrum of visible light. It is evoked by light with a dominant wavelength of roughly 570–590 nm.

It is a primary color in subtractive color systems, used in painting or color printing. In the RGB color model, used to create colors on television and computer screens, yellow is a secondary color made by combining red and green at equal intensity.

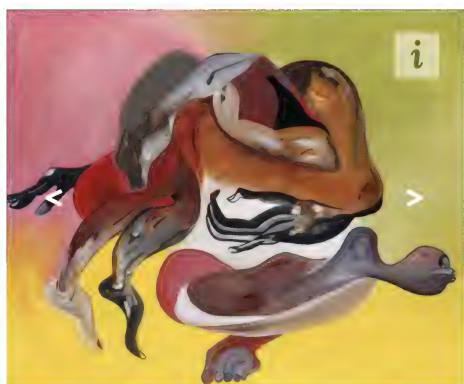
Carotenoids give the characteristic yellow color to autumn leaves, corn, canaries, daffodils, and lemons, as well as egg yolks, buttercups, and bananas. They absorb light energy and protect plants from photodamage in some cases.

Sunlight has a slight yellowish hue when the Sun is near the horizon, due to atmospheric scattering of shorter wavelengths (green, blue, and violet).

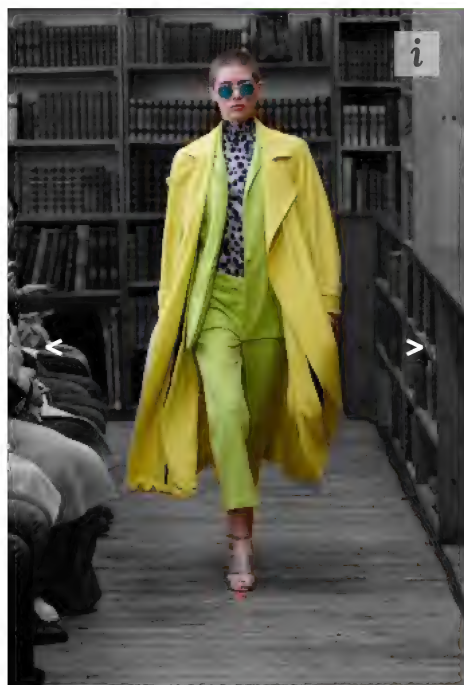
“We are entering a new world.
The technologies of machine
learning, speech recognition, and
natural language understanding
are reaching a nexus of
capability. The end result is
that we’ll soon have artificially
intelligent assistants to help us in
every aspect of our lives.”

Amy Stapleton









orange

Orange is the colour between yellow and red on the spectrum of visible light.

Human eyes perceive orange when observing light with a dominant wavelength between roughly 585 and 620 nanometres.

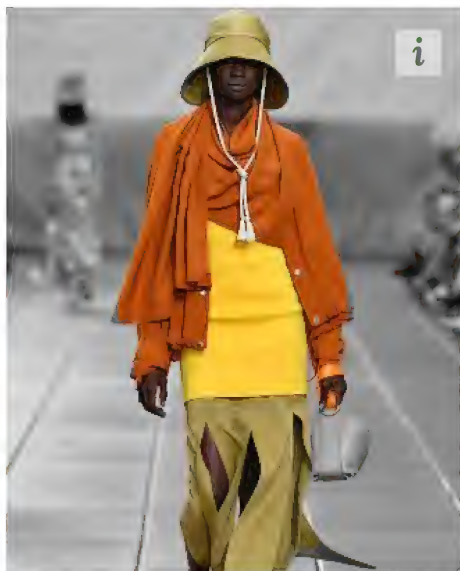
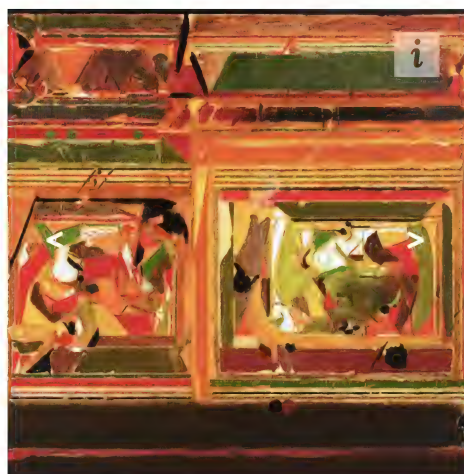
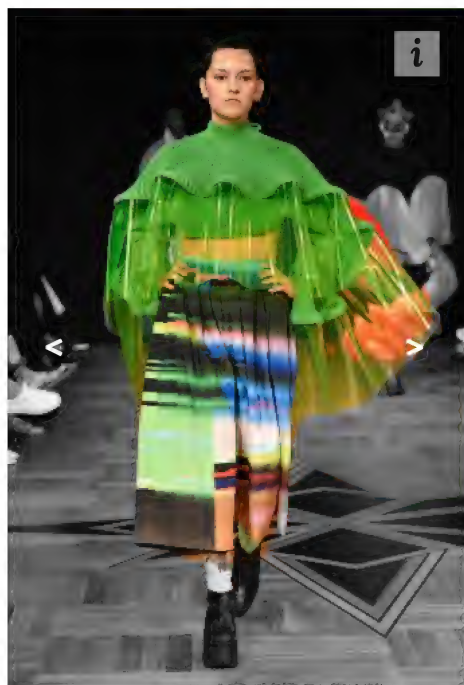
In painting and traditional colour theory, it is a secondary colour of pigments, created by mixing yellow and red. In the RGB color model, it is a tertiary colour. It is named after the fruit of the same name.

The orange colour of carrots, pumpkins, sweet potatoes, oranges, and many other fruits and vegetables comes from carotenes, a type of photosynthetic pigment. These pigments convert the light energy that the plants absorb from the sun into chemical energy for the plants' growth. Similarly the hues of autumn leaves are from the same pigment after chlorophyll is removed.

“Machine learning and deep learning will create a new set of hot jobs in the next 5 years.”

Dave Waters.





Phillip Lim
Spring 2019



Spotted fritillary caterpillar

Panasonic DMC-LX5

f/4.0 5.1 mm 1/800 ISO 80 Flash (off, did not fire)



Eckhaus Latta
Autumn 2018



pink

Pink is a pale tint of red that is named after a flower of the same name. It was first used as a color name in the late 17th century.

According to surveys in Europe and the United States, pink is the color most often associated with charm, politeness, sensitivity, tenderness, sweetness, childhood, femininity and romance.

A combination of pink and white is associated with chastity and innocence, whereas a combination of pink and black links to eroticism and seduction.

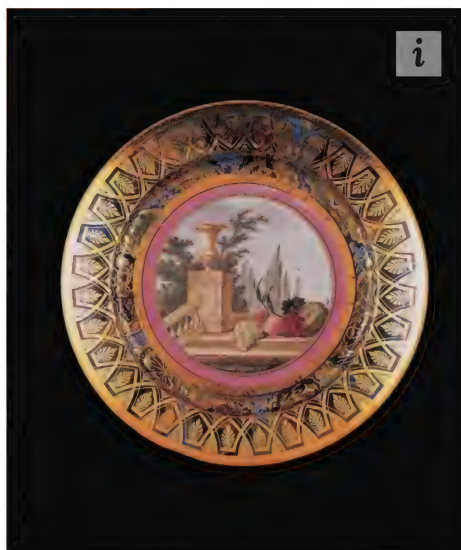
The color pink has been described in literature since ancient times. In the *Odyssey*, written in approximately 800 BCE, Homer wrote “Then, when the child of morning, rosy-fingered dawn appeared...” Roman poets also described the color.

Roseus is the Latin word meaning “rosy” or “pink.” Lucretius used the word to describe the dawn in his epic poem *On the Nature of Things* (*De rerum natura*).

“Technology, through automation and artificial intelligence, is definitely one of the most disruptive sources.”

Alain Dehaze









red

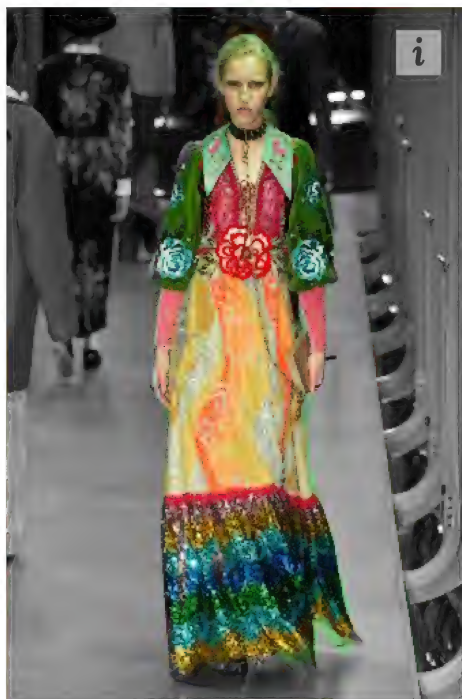
Red is the color at the end of the visible spectrum of light, next to orange and opposite violet. It has a dominant wavelength of approximately 625–740 nanometres. It is a primary color in the RGB color model and the CMYK color model, and is the complementary color of cyan. Reds range from the brilliant yellow-tinged scarlet and vermillion to bluish-red crimson, and vary in shade from the pale red pink to the dark red burgundy.

Red pigment made from ochre was one of the first colors used in prehistoric art. The Ancient Egyptians and Mayans colored their faces red in ceremonies; Roman generals had their bodies colored red to celebrate victories. It was also an important color in China, where it was used to color early pottery and later the gates and walls of palaces.

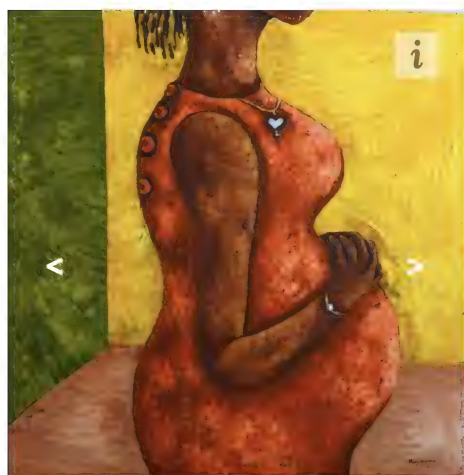
“The development of full artificial intelligence could spell the end of the human race... It would take off on its own, and re-design itself at an ever increasing rate. Humans, who are limited by slow biological evolution, couldn't compete, and would be superseded.”

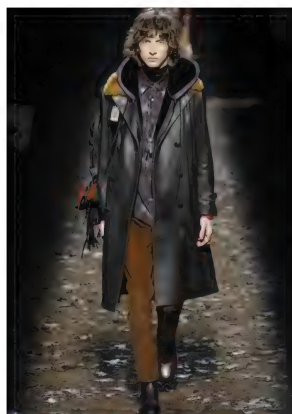
Stephen Hawking



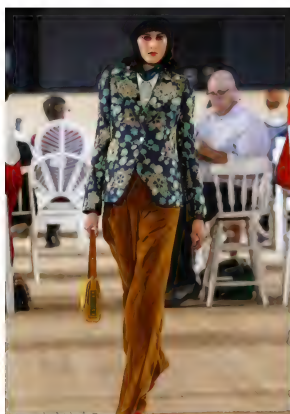




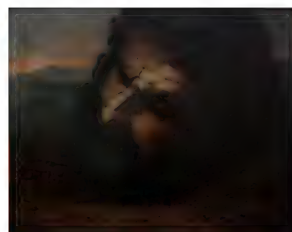




brand Coach
season Fall/Winter 2018



brand Marc Jacobs
season Spring 2020



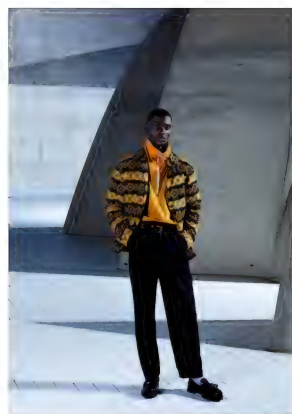
title Head of Goliath
creator Vieira Portuense
date 18th Century
size 625 x 495 mm
provenance Fundação
Dionísio Pinheiro e Alice
Cardoso Pinheiro
type Oil on canvas
external Link <http://www.fundacaodionisiopinheiro.pt/pt/o-museu>
art genre Painting
painter Vieira Portuense
original title Cabeça de Golias



title Portrait of a Gentleman
creator Adriaen Hanneman
date created Around 1655
subject Portrait
size 645 x 765 cm
type Painting
external link [Museu Nacional d'Art de Catalunya](http://www.museunacionald'artdecatunya.org)
medium Oil on canvas



title Vojnova scena War scene
creator Peter Krafft
date 1827 - 1827
provenance From the private
collection of Ernest and
Danica Zmeták
physical size 285 x 215 cm
type painting



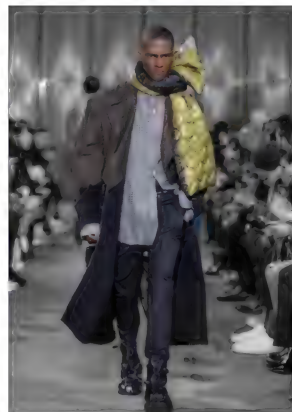
brand Vogue
season Fall 2018
look 5



brand Temperley London
season Fall/Winter 2016



title Life
creator Leyla Aliyeva
date created 2014



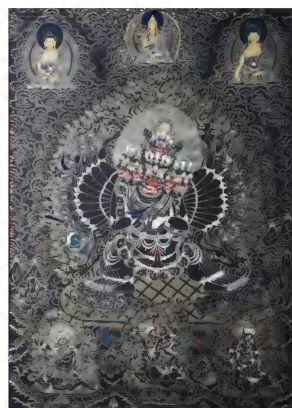
brand CMMN SWDN
season Fall/Winter 2019



title Only her body-2
creator Kong Lingnan
date created 2011
type Exhibition Scene



title Isabelle Ciaravola
creator Michel Lidvac
date 2009
provenance Michel Lidvac
type Photographie



title Yamāntaka (black
thangka)
creator Xi Hedao
date 2007
type Thangka
size 73 x 40 cm



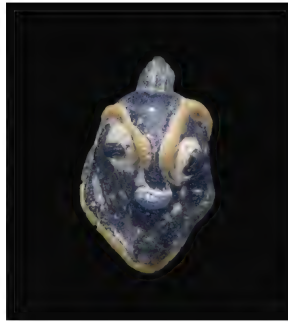
brand Maki Oh
season Spring 2019



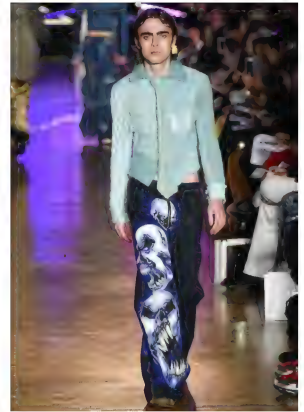
brand David Hart
season Spring 2019



brand Valentino
season Cruise 2020



title Pendant with Head of Demon
creator unknown
date -350
size 33mm (width)
type pendants
external link <https://www.cmog.org/artwork/pendant-head-demon-0>
medium glass



brand Central Saint Martins
season Fall/Winter 2019



title Shabti coffin and lid of the royal fanbearer Amenmose
external link <https://www.britishmuseum.org/collection/object/>
technique glazed; painted
subject Ancient Egyptian deity
place Found/Acquired Thebes
period/culture 19th Dynasty; 20th Dynasty
material glazed composition



brand Missoni
season Spring/Summer 2020



title Untitled
date 1985
size 1680 x 1960 cm
type painting
technique Acrylic on canvas



brand MSGM
season Spring 2020



title #43
creator Cy Thao
date 1993/2001
size 762 x 914 mm
type painting
external link <https://collections.artsmia.org/art/89597/43-cy-thao>
medium oil on canvas



brand Discovered
season Spring 2018



title Beijing Opera Self
Hybridization n°6
creator Orlan
date 2014
type Mixed media



brand MAN
season Spring 2019



title Landscape with
Pyramids
creator Federico Herrero
date 2014
size 165 x 150 cm
type Painting
external link <https://www.guggenheim.org/map-artist/federico-herrero>
medium Acrylic, oil, spray paint, and felt-tip pen on canvas



brand Swedish School of
Textiles
season Spring 2017



title Red Door
creator Spiros Papalucas
size 24 x 20 cm
date 1923
type Oil on cardboard



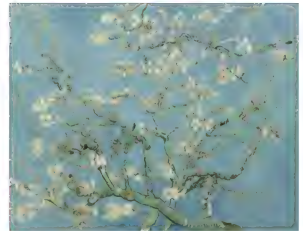
brand Gucci
season Spring 2018



title Solo Show of Fang Lijun
creator Fang Lijun
date 2006
type Oil on canvas



brand Michael Kors
season Spring 2017



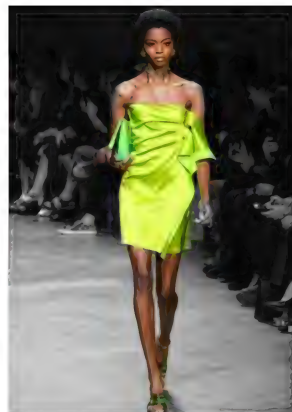
title Almond Blossom
creator Vincent van Gogh
date 1890
type Oil on cardboard
location created Saint-Rémy-
de-Provence, France
external link <http://www.vangoghmuseum.com/en/collection/s0176V1962>



brand Richard Quinn
season Autumn 2018



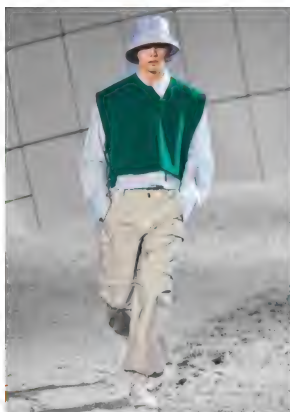
title Night and Day
creator Josep M. Rosseló
size 100 x 120 cm
date 2004
type Oil on wood



brand Versace
season Spring 2020



title Wine Jar, Celadon
creator Long-quan Ware
size 307 mm
external link fujibi.or.jp/en/our-collection/profile-of-works.html?work_id=1530



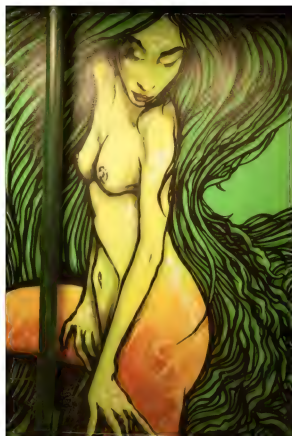
brand Solid
season Spring 2019



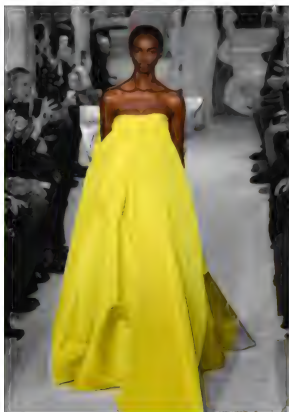
title Space of Memory
(Supplemental)



brand Off-White
season Spring 2019



title Mustart
creator Mustart
date 2012–2014



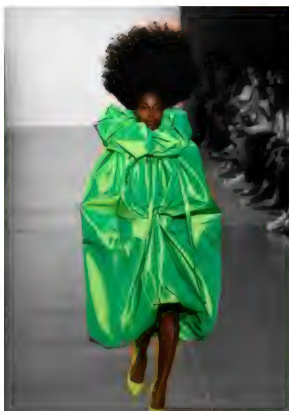
brand Valentino
season Spring 2019



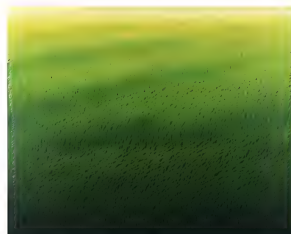
brand Jean Paul Gaultier
season Autumn 2019



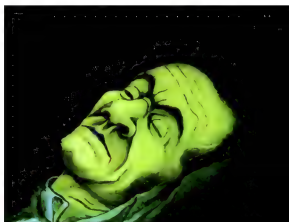
title Moved Landscape-
Journey 075
creator Taek Lim
size 630 x 840 cm
date 2007
medium C-print



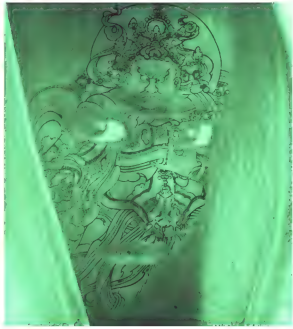
brand Christopher John
Rogers
season Spring 2020



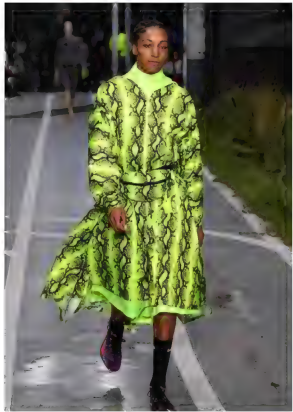
title Wind Wave
creator Ahn Byeongseok
size 227 x 181.3 cm
date 1984
type Oil on canvas



title At the End
creator Dragan Gaži
date 1966
size 280 x 355 mm



title Desire (Supplemental)



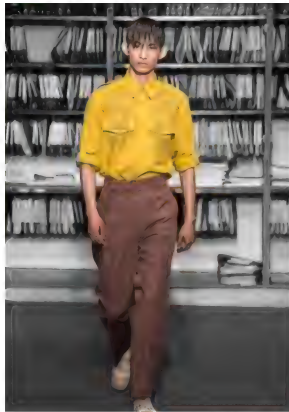
brand Off-White
season Spring 2019



brand Rick Owens
season Spring 2017



title Measure
creator Arsen Levonee
size 60 x 80 cm
date 2014
type painting
medium Oil on canvas



brand Dries Van Noten
season Spring 2018



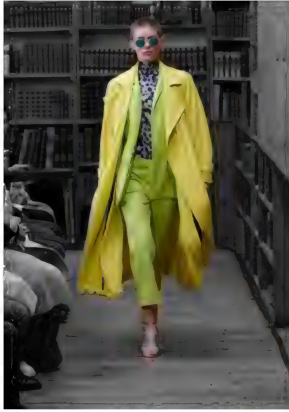
title Smile
creator StinkFish
date 2013
type Mural painting



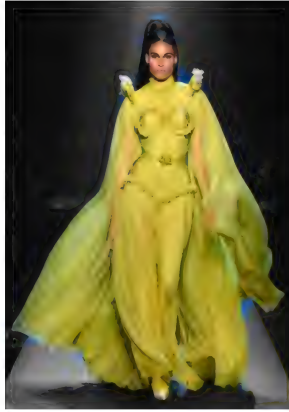
title Maharana Ari Sigh II
creator unknown
size 356 x 457 mm
date circa 1761–62
medium Opaque watercolour
on gold paper



brand Sies Marjan
season Autumn 2016



brand Koché
season Pre-fall 2018



brand Jean Paul Gaultier
season Autumn 2019



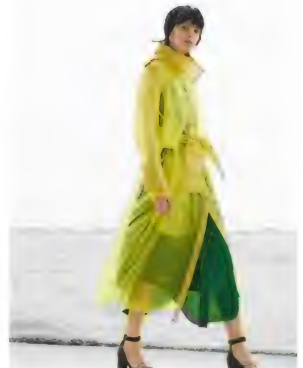
title Portrait of Camille Roulin
creator Vincent van Gogh
size 325 x 405 mm
date 1888
medium Oil on canvas



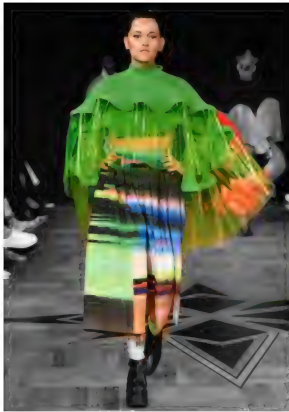
title A Church Behind a Poplar
creator Unknown
size 73 x 54 cm
date 1950s-80s
external link <https://honchar.org.ua/halereya/zhyvopys/>
medium Drawing and watercolour



title Anther
creator Trevor Bell
size 72 x 66 in
date 2003
medium Acrylic on canvas



brand Akira Naka
season Cruise 2020



brand Swedish School of
Textiles
season Spring 2019



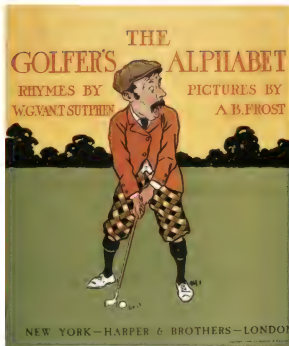
brand Swedish School of
Textiles
season Spring 2019



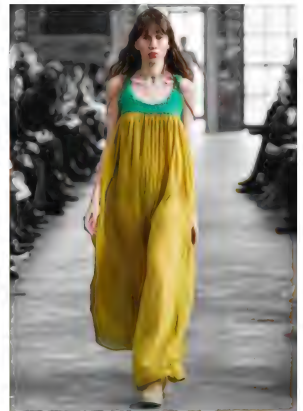
brand Philip Lim
season Spring 2019



title Rjasthan II
creator S. H. Raza
date 1983



title The Golfer's Alphabet
creator A. B. Frost
date 1898



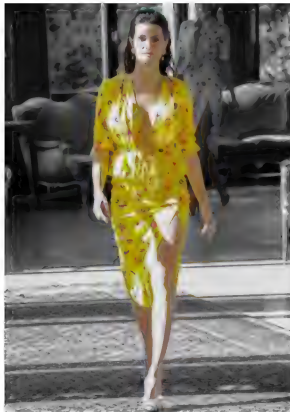
brand Eckhaus Latta
season Autumn 2018



title China Diary, No. 54
creator Zhu Wei
date 2008



title Vegetable Animal
creator Louise Guillaume
date 2004



brand Altuzarra
season Spring 2019



title Disk -1/1
creator Unknown



title Garniture de Trois
(Supplemental)
creator Unknown



brand Thom Browne
season Spring 2019



brand Royal College of Art
season Spring 2018



title The Hindu Goddess
Durga
creator Unknown
date Late 17th C.



title Beaker
creator Unknown
date A. D. 200–300



brand GMBH
season Autumn 2018



brand Gucci
season Spring 2020



title Decorated Plate
creator Marc Schoelcher
date Early 19th C.



title Untitled
creator Unknown



brand Karen Walker
season Autumn 2019



brand Bally
season Autumn 2016



brand Gig Couture
season Spring 2017



brand Valentino
season Spring 2020



title Page of Calligraphy
creator Unknown
date 19th C.



brand Undercover
season Spring 2017



title Religious Man The Spanish Miracle
creator Herbert Whittaker
date 1935



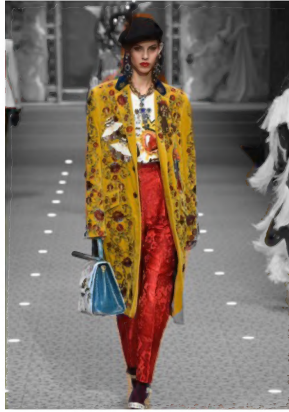
title Detail from Main Reredos at Sanctuary Church
creator Chimayo E Boyd
date 1935/42



title Kids Picking Canberrys
creator Josip Generalić
date 1946-2004



title Untitled. Entanglement Series
creator Wanda Pimentel
date 1968



brand Dolce & Gabbana
season Autumn 2018



title Landscape
creator Dezider Milly
date 1969



brand Gucci
season Autumn 2017



title Almost Due
creator Mary Ogembo



title Apparel
creator Unknown
date 1510



brand Michael Kors
season Autumn 2018



brand Marques Almedia
season Autumn 2016



machine vision and colour
nature, art, and fashion

Elizabeth Skipp

University of Reading